WHEN IS ACCOUNTING QUALITY IMPROVED? ASSESSING THE

EARNINGS MANAGEMENT EFFECT OF IFRS FOR SOUTH AFRICA

BENJAMIN YEBOAH[1] & MICHAEL YEBOAH[2]

[1]PhD Student, ISCTE Business School, Lisbon, Portugal, Kumasi Polytechnic,

Department of Accounting and Accounting Information Systems, Kumasi, Ghana

[2]Lecturer, Kumasi Polytechnic, Kumasi Polytechnic, Department of Accounting and

Accounting Information Systems, Kumasi, Ghana

ABSTRACT

The study tests the extent of the IFRS adoption by South Africa listed firms as at 1st January, 2005 in relation to earnings management on accounting quality for spanning period between 1998 and 2012. The dimensions of earnings management that were analyzed are a change in net income, variability of change in net income over change in cash flow from operations, correlation between accruals and cash flow, change in net income over small positive target (SPOS), and absolute discretionary accruals. The study employed the ordinary least square (OLS) estimators based on prior studies to measure the metrics of earnings management. We find that the adoption of IFRS has resulted in better accounting quality than previously under South African Generally Accepted Accounting Principles (GAAP). Specifically, the results evidence that the pervasiveness of earnings management by way of earnings smoothing and discretionary accruals has reduced within post adoption period. This conclusion is contrary to SPOS metric.

KEYWORDS: IFRS, Accounting Quality, Earnings Management, Capital Market, South Africa

1 INTRODUCTION

The change in accounting regimes to the adoption of International Financial Reporting Standards (IFRS) is marked as one of the most significant in accounting history. Higher accounting quality, and the likes of improved corporate transparency and improved liquidity position, to benefit firms and investors (Barth et al. 2008; Armstrong et al. 2010; Zéghal et al. 2011) are attributed to the IFRS adoption. South Africa mandated IFRS adoption in 2005 as like many European Union (EU) countries.

There is increasingly of corporate accounting discredit among corporate leaders and professional accountants in South Africa as accounting fraud is the order of the day, due to relatively weak institutional environment. In view of that the earnings management are under severe attack by corporate media and financial analysts. Many accounting scholar are seemingly against the practice of earnings management, even though it is accepted that not all earnings management techniques are deceptive. This study therefore examines the effect of earnings management incentives on accounting quality of South Africa listed firms.

Practice of earnings management and its adverse consequences on the financial reporting process are predominant and a source of worry to the users of accounting information in South Africa. Many scholars have already conducted extensive research about the extent of earnings management on the accounting quality of publicly European Union traded

firms (Barth et al. 2008). Yet, to our knowledge, there is little empirical evidence on the impacts of the earnings management on accounting quality after the adoption of IFRS, especially from developing countries perspective. Therefore, by using a firm-level cross-sectional regressions and discretionary accruals models, this study aims to exploit the extent of mandatory IFRS adoption and the earnings management on the quality of accounting information of the JSE firms.

South Africa is first among the countries in Africa outside the EU to have mandated the adoption of IFRS. Therefore, this paper contributes to the existing literatures that have largely focused on only EU adoption. The study contributes to the growing body of literature on earnings management of capital markets of Africa. Furthermore, South Africa has a comparatively longer adoption experience relative to other African countries that mandated the post 2005 IFRS adoption, and therefore allows a sufficient information window to assess such impact, since it has enough time-frame for meaningful conclusions.

We use a wide range of accounting-based metrics and discretionary accruals for comparing the quality of accounting numbers under South African GAAP and IFRS. First, we compare the pervasiveness of earnings management under South African GAAP and IFRS by examining the extent in which earnings are smoothed and managed towards a positive target. Second, we assess whether the IFRS adoption has affected the discretionary accruals on listed firm of JSE (Jeanjean & Stolowy, 2008). The evidence reveals that IFRS adoption in South Africa leads to a significant improvement in accounting quality in all metrics employed, except the small positive net income towards target (SPOS).

The remainder of this paper is organized as follows. The next section reviews the relevant literature on the adoption of IFRS and earnings management. The third section explains the research design and sample data employed in the study. The fourth section presents the descriptive and empirical results, and we provide our conclusion in the final section.

2. LITERATURE REVIEW

a. Accounting Practices Board and IFRS

The South African Institute of Chartered Accountants (SAICA) as well as Accounting Practices Board (APB) promulgates South African accounting standards. Early 1995, SAICA has been gradually adopting IFRS but with minor modifications (Prather-Kinsey, 2006). Furtherance to the total harmonization with IFRS, South Africa principles were brought to bear with IFRS in effective 2000. This basis requires the firms that are listed in the Johannesburg Securities Exchange (JSE) to only present their financial statements in accordance with IFRS as from 1st January, 2005.

b. Earnings Management Definition

Schipper (1989) defines earnings management as "a purposeful intervention in the external financial reporting, with the intent of obtaining some private gain. In consistent with Schipper (1989), Mulford and Comiskey (2002) defined earnings management as "the active manipulation of earnings toward a predetermined target.

c. Earnings Management Incentives

Broadly, the study highlights three main incentives for earnings management as identified by prior studies (Healy & Wahlen, 1999):

Capital Market Incentives

To avoid a significant decline of company's share price, managers' manipulate earnings and future sales in order to achieve earnings above benchmarks. The incentive to do that is also heightened when top managers decide to realign their remuneration packages like stock options and bonus with firm performance (Matsunaga & Park, 2001). In most cases, they engage on this exercise to receive higher prices for their stock.

Contractual Motives

The incentives for earnings manipulation of this motive involves a situation where top managers manipulate earnings to gain more earnings for meeting their legal contractual obligations with debt lenders, suppliers, and creditors when fall due. This exercise creates room for more earnings and avoids losses to meet such obligations so as to avoid penalty. This motive is heightened within the synopsis of agency theory.

Regulatory Motive

This motive explains the political cost hypothesis as proposed by Watts and Zimmerman (1978). It explains that big firms (size) that report high earnings can draw the attention of regulators and the government in terms of implementing political actions to avoid discrediting the ruling government. In an attempt to oppose such actions would lead to political actions such as legal costs against the firm. Moreso, wage increase demand by labour unions may occur, base on large reported earnings. Consequently, large firms have incentives to decrease the amount of reported earnings.

d. Accounting Quality and Earnings Management

There are a lot of corporate scandals (e,g Enron, Parmalat) in the global world that explain and attribute its cause to the phenomenon of earnings management (Goncharov, 2005). Accounting quality is a fundamental basis for researching and is the motives and consequences of financial reporting manipulations within financial statements. This basis has necessitated indepth investigations into the existence and practice of earnings management by accounting researchers. In view of that, accounting quality becomes questionable when managers have an incentive to manage reported earnings when the need arises (Dechow & Skinner, 2000).

Payne and Robb (2000) study the effect of analysts' forecasts on earnings management. They conclude that managers have incentives to use their discretion over accounting accruals to eliminate negative earnings surprises. They find that managers manage earnings upwards when pre-managed earnings are below analysts' forecasts. However, when pre-managed earnings exceed analysts' forecasts, managers either keep discretionary accruals for future periods by employing an income-decreasing strategy or preserve a positive earnings surprise with the aim of achieving a favourable share price reaction. Holland and Ramsay (2003) examine whether listed Australian companies manage earnings to report positive profits. They find evidence of discontinuities in the distribution of reported earnings and changes in earnings. Sarkar et al (2006) ascribe low levels of earnings management to a situation of high quality governance mechanisms, such as independent board of directors and effective existence of audit committee. They investigated the impact of board characteristics on opportunistic earnings management in the context of a large emerging Indian economy, using a sample of 500 large Indian firms. The results indicated that it is not board independence per se, but rather board quality that is important for earnings management. The results showed that diligent boards and audit committee are associated with lower earnings manipulation.

2.1 Hypothesis

South African financial reporting environment achieves a competitive advantage arising from early IFRS adoption over other African countries. In addition, there is existence of high-quality national accounting regime that is well-regarded before transition to IFRS. This implies that the country had already enjoyed high-quality reporting practices prior to the introduction of IFRS. Despite this, prior few researches about the IFRS adoption and earnings management on accounting quality conclude mixed findings. Some research work attributes to the fact that South Africa's former accounting principles-based standards are similar to the use of IFRS, and therefore its effect is negligible. This makes the current IFRS adoption effect to be still uncertain.

The regulators of the standards predict that investors should benefit from the adoption of IFRS, since it ensures a high degree of transparency and comparability of financial statements for quality financial reporting (EC Regulation No. 1606/2002). Following this assertion, it is expected that the adoption of IFRS would limit management ability to have opportunity to exercise their own discretion over certain key accounting decisions to their advantage. This tends to provide more consistent approach to accounting measurement, which leads to improve accounting quality (Daske et al, 2008). Despite that, there is another school of thought which argues that earnings management has not improved accounting quality, especially in the short timeframe after IFRS adoption (Jeanjean & Stolowy, 2008). Ewert and Wagenhofer (2005) study conclude that tightening the accounting standards can reduce the level of earnings management, thereby improving the quality of accounting.

Taken together the general underlying concept of IFRS adoption and mixed findings of accounting quality arising from the adoption in developing countries, we propose this hypothesis;

HI: The adoption of IFRS will lead to higher accounting quality in the post-adoption period arising from less earnings management in South Africa.

3. RESEARCH METHODS AND PROCEDURES

a. Type of Business Research

The study's research type is quantitative method. We used this method to collect secondary data from the DataStream database. Among the financial statement indicators collected includes relevant income statement items, financial position items and other indicators for the study. In view of inconsistencies of the South African data, a matched sample construction was not employed. The accounting quality metrics applied in the study of earnings management were earnings smoothing and discretionary accruals.

b. Data Collection and Sample Size

Our sample comprises 2535 firm-year observations for 181 firms that adopted IFRS between 1998 and 2012 for which DataStream data are available for the period understudy. The sample excludes debt instruments firms and mutual companies in South Africa. We gather both stock data and accounting data from DataStream. The population in this study refers to all companies listed in the JSE between 1998 and 2012. The need for this study is appropriate since prior works never considered such an extensive period baseline study. The sample excludes fund firms, debt firms, dead firm within the study period, and firms with missing data. The sample firms cut across all forms of industry such as extraction, finance, manufacturing, merchandise, and service firms as adapted from Barth et al. (2009) classification.

All the accounting data were expressed in U.S Dollars. The study focused on listed companies in South Africa, where compliance of IFRS is mandatory and therefore data was of high level of integrity. Consistent with the European Union (EU), the South African transition to IFRS was made effective from January, 2005, and therefore would have expected the first IFRS accounts in the fiscal year-ended December 31, 2005. In line with Paananen and Lin (2007), some institutional factors held constant including stock listing requirements, accounting disclosure requirements, market microstructure and regulatory environments. This tends to strengthen the reliability of the findings thereon. In view of inconsistencies of the data, a matched sample construction was not employed.

c. Measurement of Accounting Quality

We mostly used two prominent measures that are mostly employed by prior researchers in measuring for accounting quality during the IFRS adoption to include: earnings management and discretionary accrual methods (Barth et al, 2008; Kothari et al, 2005; Jones et al, 2008). The effects of financial reporting system are the basis for metric of accounting quality. In addition to this, there are suitable economic and environmental conditions that serve as incentives to be associated with the adoption of IFRS. The study intended to overcome these challenges and mitigate the confounding factors to ensure complete and reliable outcome. We assess the impact of IFRS adoptions on accounting quality between the pre-adoption (1998-2004) and post-adoption (2006-2012) periods. The study is based on listed companies in the Johannesburg Stock Exchange (JSE) in South Africa, where adoption compliance is mandatory.

Contrary to Lang et al (2003), the study never employed a paired sample, but considered two main divisions between the pre-adoption period and post-adoption period of the South African GAAP and IFRS respectively.

d. Earnings Management Measurement Methods

This measure employs four earnings management metrics to examine accounting quality, namely: earnings smoothing, managing earnings towards targets, and discretionary accruals. Specifically earnings smoothing recognises metrics such as: the variability of the change in net income, the variability of change in net income over the variability of change in cash flow from operations, managing earnings towards targets and the other one is discretionary accruals.

1. Earnings Management

It is noted that earnings management measurement a challenging task for researchers, due to the fact that earnings management is invisible to detect especially for small data size, and therefore it is not easy for effective management. The study follows Barth et al (2008) three prominent measures of earnings management namely: the variability changes in earnings, variability of changes in net income earnings over variability in change in cash flow, the spearman correlation between accruals and cash flow, managing towards small positive earnings, and the last construct is the absolute discretionary accruals. These methods are discussed in turn as:

a. Variability in Change in Net Earnings

Barth et al (2008) explains the above measure as a small variance of the change in net income is interpreted as evidence of earnings smoothing. This construct is affected by other unrelated factors to earnings smoothing. The need to mitigate against these factors recognize the measure of earnings variability as the variance of the residuals from the regression of change in net income. In the equation (1), the variability of net income in natural logarithm is between pre and post periods of the IFRS adoption of the regression against the control variables.

Equation (1): Regression of LCgNI on the control variables

$$LCgNI_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 CFO_{it} + \alpha_3 LGROWTH_{it} + \alpha_4 LEV_{it} + \alpha_5 TURN_{it} + \alpha_6 ISSUE_{it} + \alpha_7 IND_i + \alpha_8 TIME_i + \varepsilon_{it}$$

Where,

SIZE = the natural log of total assets

CFO = annual net cash flow from operating activities divided by total assets

LGROWTH = the natural log of percentage change in sales

LEV = total liabilities divided by the year end equity book value

TURN = sales divided by year end total assets

ISSUE = percentage change in total common stock

IND = variables for industry fixed effects, being classified

TIME = dummy variables for time (year) fixed effects

b. Variability of Change in Net Income Over Change in Cash Flow

On the general basis, firms that have more volatile cash flow typically, have a volatile net income, especially when firms use accruals to manage earnings. This condition tends to lower variation in income than that of operating cash flow. The model for equation (2) specifies this as:

Equation (2): Regression of LCgCFO on the control variables

$$LCgCFO_{it} = \alpha_0 + \alpha_1 SIZE_{it} \alpha_2 LGROWTH_{it} + \alpha_3 LEV_{it} + \alpha_4 TURN_{it} + \alpha_5 CFO_{it} + \alpha_6 ISSUE_{it} + \alpha_7 IND_i + \alpha_8 TIME_i + \varepsilon_{it}$$

c. Spearman Correlation of Accruals and Cash Flow

Spearman correlation between accruals (ACC1) and cash flows (CFO) is the third earnings smoothing measure. When firms attain poor cash flows, firms use accruals to engage in earnings management to smooth cash flow variability. Consistent with the previous measures (Barth et al. 2008), other factors could similarly influence cash flow and accruals. We use residuals from regressions of cash flows and accruals to determine the spearman correlation. Equation (3a) addresses the natural log of cashflow metric, whilst equation (3b) takes care of accruals (ACC1) metric.

Spearman correlation between cash flows and accruals

= CORR (CFO Rho, ACCI Rho)

Where: CFO = residuals from the regression of CFO on the control variables

ACCI = residuals from the regression of ACCI on the control variables

Equation (3a): Regression of CFO on the control variables

$$LCFO_{it} = \alpha_0 + \alpha_1 SIZE_{it} \alpha_2 LGROWTH_{it} + \alpha_3 LEV_{it} + \alpha_4 TURN_{it} + \alpha_5 ISSUE_{it} + \alpha_6 IND_i + \alpha_7 TIME_i + \varepsilon_{it}$$

Equation (3b): Regression of ACC1 on the control variables

$$ACCI_{it} = \alpha_0 + \alpha_1 SIZE_{it} \alpha_2 + LGROWTH_{it} + \alpha_3 LEV_{it} + \alpha_4 TURN_{it} + \alpha_5 ISSUE_{it} + \alpha_6 IND_i + \alpha_7 TIME_i + \varepsilon_{it}$$

d. Management towards small positive earnings (SPOS)

This construct follows Lang et al (2006) and Barth et al (2008) by using a dummy variable that set to 1 for observations for which annual net income, scaled by total assets is between 0 and 0.01, and sets to 0 otherwise. We run the logistic regression by denoting STDS as binary variable of SPOS, the dependent variable. This construct examine whether the probability of firms reporting small positive earnings (SPOS) has changed after firms transited to IFRS, together with control variables used by previous study (Barth et al, 2008).

Equation (4): Logistic regression of SPOS on STDS and the control variables

$$SPOS_{it} = \alpha_0 + \alpha_1 STD_{it} + \alpha_2 SIZE_{it} + \alpha_3 CFO_{it} + \alpha_4 GROWTH_{it} + \alpha_5 ACCI_{it} + \alpha_6 LEV_{it} + \alpha_7 TURN_{it} + \alpha_8 ISSUE_{it} + \alpha_9 IND_i + \alpha_{10} TIME_i + \varepsilon_{it}$$

Where:

STDS =dummy variable that equals 1 if observation are in the post –adoption, and 0 otherwise

SPOS= dummy variable that equals 1 if net income scaled by total assets is between 0 and 0.01, and 0 otherwise

2. Discretionary Accruals Methods

Discretionary and non-discretionary accruals are used to measure managed and unmanaged earnings respectively. As pointed out by Healy (1985), management exercises discretion over discretionary accruals only when managing earnings. Earlier studies examine specific choice of accounting methods and accounting estimates managers made under discretionary accruals for measuring earnings (McNichols and Wilson, 1988). Total accruals are defined as the difference between cash from operations and net income (DeAngelo 1986; Healy, 1985). Several empirical studies show that accrual-based accounting earnings are more informative with respect to stock returns than cash flows (e.g. Dechow, 1994). Discretionary accruals allow managers to exercise their discretion over accounting choices and estimates, and therefore a platform to promote earnings management (e.g Dechow et al, 1995; Batov et al, 2001). Among the most commonly methods used by previous studies to measure earnings management are abridged in Table 1.

Table 1: Discretionary Accrual Methods for Measuring Earnings Management

The Jones Model (1991)	The Modified Jones Model (1995)	The Performance-Matching Model (2005)
$$\frac{TA_{it}}{Ai_{it}} = a_i \frac{1}{A_{it}} + \beta_{it} \frac{\Delta REV}{A_{it-1}} + \beta_{2i} \frac{PPE}{A_{it-1}} + \varepsilon_{it}$$ Where TA=total asset A=total assets REV= revenues PPE= gross property, plant and equipment ε = error term	$$TAC_t = \Delta CA_t - \Delta Cash_t + \Delta CL_t + \Delta DL_t + Dep$$ Where AR= account receivables	$$TA = q_0 + q \frac{1}{A_t} + \beta_{it} \frac{\Delta REV - \Delta AR}{A_{it-1}}$$ $$+ \beta_{2i} \frac{PPE}{A_{it-1}} + \sigma ROA_{i,t-1}$$ Where ROA= return on assets σ =regression coefficient in the estimation period

The Jones (1991) model regresses total accruals on gross property, plant and equipment and changes in revenues which provide coefficients that are then used to estimate unmanaged accruals. One major limitation of this model lies in the assumption that managers do not exercise discretion over revenues and this can lead to misspecification of the discretionary accruals when managers do exercise discretion over revenues. Several empirical studies pinpoint that Dechow et al.'s (1995) modified Jones model is best in detecting earnings management, specially using it on a cross sectional discretionary accruals basis (e. g; Jiang et al, 2008; Chang & Sun, 2009).

Kothari et al. (2005) argue that the discretionary accruals, as estimated by both Jones and modified Jones models may result in severe measurement error in discretionary accruals when these models do not control for the prior performance of the company. They propose a model that includes control for the firm's performance using the lag of return on assets (ROA) to mitigate the problematic heteroskedasticity and misspecification issues of the Jones and modified Jones models in estimating accruals. The non-discretionary accruals of the cross-sectional modified Jones model with current year ROA is what this paper used as estimated in equation (5):

$$NDA_{i,t} = \alpha_1 (1/Assets_{i,t-1}) + \alpha_2(\Delta REV_{i,t} - \Delta REC_{i,t}) + \alpha_3 PPE_{i,t} + \alpha_4 ROA_{i,t} \qquad \text{Equation (5)}$$

The definitions of the variables are the same as for Table 1. The estimates of the industry-specific parameters are $\alpha_1, \alpha_2, \alpha_3,$ and α_4.

3.1 Measuring Total Accruals

There is the need to compute total accruals first in order to estimate discretionary accruals. The literature offers two methods for computing total accruals. The first is the traditional balance sheet approach that is used in the majority of prior studies (e.g. Dechow et al.; 1995; Peasnell et al.; 2000b; Kothari, 2001). The second method is the cash flow approach used by recent studies (e.g. Huang et al, 2007). One of the reasons for the popularity of the balance sheet approach may be the availability of balance sheet statement data compared to cash flow statement data. This study employed the cash flow method due to availability of relevant data for computation. The formula for cash flow approach measures accruals as: ACCI =NI –CFO, where ACCI is total current accruals, NI is earnings before interest and tax, and CFO is cash flow from operations (Jaggi et al, 2009), whileas the balance sheet approach follows Dechow et al. (1995) and Kothari (2001) prior methods as shown in equation (6):

$$TAC_t = \Delta CA_t - \Delta Cash_t + \Delta CL_t + \Delta DL_t + Dep_t \qquad \text{Equation (6)}$$

Where:

ΔCA_t = Change in current assets in year t

$\Delta Cash_t$ = Change in cash and cash equivalents in year t

ΔCL_t = Change in current liabilities in year t

ΔDCL_t = Change in debt included in current liabilities in year t

DEP_t = Depreciation and amortization expense in year t

Given the above formula for both the total current accrual (ACC1) and cash flow (CFO) perspective and non-discretionary accruals (NDA), the discretionary accruals (DA) (See equation 5) can be derived as:

DA = ACC1 − NDA   Equation (7)

This is where DA is used as a proxy for derivation of earnings management computation. Alternatively, the residuals of NDA (see equation 5) could be employed as a proxy for earnings management serving as a dependent variable (Morais & Curto, 2009; Sam et al, 2010). For the purpose of this study, we employed the residuals of NDA approach for estimating the DA (see Tables 5 and 6a and 6b). Collins and Hribar (2002) find that the balance sheet approach has a high frequency and magnitude of significant errors, it is less efficient than cash flow approach.

4. RESULTS

1. Descriptive Statistics

The descriptive statistics in Table 2 relates to variables the study used in our analyses. It shows that the post-adoption firms have significantly fewer incidences of small positive earnings and significantly more incidence of large positive earnings in the pre-adoption period. In terms of control variables, pre-adoption period has a higher growth than do post-adoption period firms. Despite that there is relatively stable mean figure for size (SIZE) in both periods, the post-adoption period is significantly larger than pre-adoption period. This implies that after moving towards IFRS, the sample firms have grown significantly.

Table 2: Descriptive Statistics Relating to Variables used in Analyses for Earnings Management

Test Variables	Pre-Adoption of IFRS			Post-Adoption of IFRS		
	OBS	Mean	Std Dev	OBS	Mean	Std Dev
CGNI	1118	0.0091404	0.3457958	1127	-0.0005137	0.0193371
CGCFO	1096	121785.4	476322.6	1122	214270.5	0.0193371
ACCI	1103	-0.0896331	2.186595	1208	8.91587	311.8548
CFO	1109	109548	491648.4	1208	220805.8	769859.9
SPOS	1127	0.0470275	0.2117917	1208	0.0347682	0.1832681
Control Variables						
TURN	1125	1.420155	9.050101	1206	1.02097	0.9810828
ISSUE	1121	0.4772906	7.697753	1128	0.1393949	0.9450538
GROWTH	1090	3.053665	65.63545	1087	0.3143829	2.753595
SIZE	1097	11.12325	2.733846	1162	12.28825	2.58642
LEV	1129	3.8324	23.26463	1208	2.952644	17.33324

Variable Definition

CGNI = change in annual net income scaled by total assets

CGCFO = change in annual net cash flows from operating activities scaled by total assets

ACC1 = net income less cash flow from operating activities scaled by total assets;

CFO = annual net cash flow from operating activities divided by total assets;

SPOS = dummy variable that equals 1 for observations for which annual net income is scaled by total assets, that is between 0 and 0.01, and 0 otherwise;

TURN = sales divided by total assets;

ISSUE = percentage change in common stock;

GROWTH = percentage change in sales;

SIZE = natural logarithm of sales; and

LEV = total liabilities divided by total shareholders' equity.

It is not surprising to find that the leverage ratio (LEV) and the percentage change in total liabilities (TURN) have decreased following IFRS adoption. The adoption principles restrict both short and long term borrowings.

Table 3 reports descriptive statistics for pre-adoption and post-adoption of IFRS firms of JSE market by industry classification as adapted from Barth et al (2009). Table 3 suggests that a large

Table 3: IFRS Firm Sample Composition by Industry Classification

Industry Classification	Pre-Adoption of IFRS			Post-Adoption of IFRS		
	Frequency	Percentage	Cum	Frequency	Percentage	Cum
1.Finance	105	8.29	8.29	105	8.29	8.29
2.Services	696	54.93	63.22	699	55.17	63.46
3.Extraction	140	11.05	74.27	147	11.60	75.06
4.Merchandise	224	17.68	91.95	231	18.23	93.29
5.Manufacturing	104	8.05	100.00	85	6.71	100.00
	1269			1266		

number of firms are within the service industry classification. Finance industry classification recorded the small number of firms, while as merchandise industry classification records the second largest number of firms in this industry. We do not conduct significance tests of differences in mean between the two periods. Industry year effects were included when constructing our metrics.

2. Earnings Management

Table 4 presents results comparing the quality of accounting amounts for IFRS and South African GAAP of firms listed in the JSE in the post-adoption period. It reveals that post-adoption period of IFRS generally evidence less earnings management of accounting amounts than do firms applying national standards.

Table 4: Earnings Management Results

Earnings Management Metric				
Measure	Prediction	POST		PRE
Variability of CGNI	Post>Pre	2.980		2.332
Variability of CGNI over CGCFO	Post>Pre	2.576		1.692
Correlation of ACC1 and CFO	Post>Pre	0.0544		0.0456
Small positive NI (SPOS)	-		0.4694	

1. Variability of Change in Net Income

This measure of earnings management indicates that post-adoption of IFRS depicts a significantly higher variability of change in net income (CGNI), of 2.980 compared to pre-adoption period CGNI measure of 2.332 (see Table 4). This suggests that there is higher variability in earnings in the post-adoption period by 0.648. The higher variability of net income in the post-adoption period implies that, IFRS tends to minimize the ability of managerial discretion over accounting numbers, which in turn leads to improved accounting quality as consistent with Barth et al. (2008).

2. Variability of the Ratio of CGNI and CGCFO

This measure expresses the ratio of the variance of the change in net income to the variance of the change in

operating cash flows. This ratio is used to ensure that the volatility of net income is not driven by volatility in the operating cash flow (Barth et al, 2008; Paananen, 2008) Table 4 shows that post-adoption period ratio (2.576) is substantially higher than in the pre-adoption period ratio (1.692). It suggests that the variability of the change in net income in the pre-adoption period is below the variability of the change in operating cash flows. This implies that there is less smoothing of earnings to cause an improvement in accounting quality than it is more likely by the effect of accruals, which arise from the IFRS adoption (Barth et al, 2008).

3. Correlation of ACC1 and CFO

This measure shows the correlation between accruals (ACC1) and cash flows (CFO) variables. It depicts significantly more positive in the post-adoption period (0.0544) than in the pre-adoption period (0.0456) (see Table 4). It suggests that earnings smoothing has reduced as a result of the adoption of IFRS, which in turn, leads to improve the accounting quality (Chua et al, 2012). This suggests the notion that the IFRS adoption has lowered earnings management by way of smoothing the significant coefficient for post-adoption period, as adoption limits managers' ability to exercise discretion on accounting numbers to their short-term advantages.

4. Small Positive Net Income towards Target

The coefficient of SPOS (0.4694) is positive, although it is not statistically significant. This is contrary to the prediction that IFRS adoptions generally improve accounting quality. This implies that there is insignificant difference in terms of firms managing earnings towards a positive target across the pre-adoption and post-adoption periods. This suggests a higher occurrence of small positive earnings in the post-adoption period of under IFRS. This is consistent with Barth et al (2008) studies, which stipulates that a positive coefficient between the pre and post adoption period indicate that International Accounting Standards (IAS) firms manage earnings towards small positive amounts more frequently in the post-adoption period than they do in the pre-adoption period. This finding is therefore consistent with the prediction that earnings are managed more in the post-adoption period of under IFRS.

5. Discretionary Accrual Method

This study uses non-discretionary accruals of the cross-sectional modified Jones model, which is augmented to control for the impact of firm performance on accruals by recognizing the current year return on asset (ROA) (Kothari et al, 2005; Sam et al, 2010; Chen et al, 2010) and for growth purposes (McNicholas, 2002). This method is used to assess the extent of earnings management in absolute value terms (Aboody et al, 2005). Consistent with our prediction, post-adoption mean measure (-7.09e-11) is far less than the pre-adoption period mean measure (2.47e-10) (see Table 5). This signifies that there is an improved accounting quality in the IFRS adoption period than in the pre-adoption period (Chen et al, 2010).

Table 5: Discretionary Accrual Results

Discretionary Accrual Method	Prediction: Post < Pre				
	Mean	**Standard Deviation**	**50%**	**75%**	**OBS**
PRE: racc1	2.47e-10	0.1873346	0.0109178	0.617543	635
POST: racc1	-7.09e-11	0.2311225	0.100541	0.0631612	870

Post-adoption period has a larger median value than that of the pre-adoption period, which is a reverse of mean values.

Tables 6a and 6b provide a Spearman correlation matrix results between IFRS adoption and discretionary accruals for both pre-adoption period and the post-adoption period.

Table 6a: Pre-Adoption Period: Spearman Correlation for Discretionary Accruals

obs = 635	racc1	inta	Diffrev	PPEta	ROA
racc1	1.0000				
inta	-0.0753 (0.0578)	1.0000			
diffrev	0.0044 (0.9127)	-0.0537 (0.1763)	1.0000		
PPEta	-0.0631 (0.1124)	-0.2401* (0.0000)	0.0743 (0.0612)	1.0000	
ROA	-0.3437* (0.0000)	-0.0764 (0.0543)	0.0046 (0.9078)	0.0216 (0.5871)	1.0000

*significance at 0.05%

Table 6b: Post-Adoption Period: Spearman Correlation for Discretionary Accruals

Obs= 870	racc1	inta	Diffrev	PPEta	ROA
racc1	1.0000				
inta	-0.0948** (0.0511)	1.0000			
diffrev	0.0415 (0.2219)	-0.0470 (0.1664)	1.0000		
PPEta	-0.1624* (0.0000)	-0.2077* (0.0000)	0.0792** (0.0194)	1.0000	
ROA	-0.4115* (0.0000)	-0.0861* (0.0111)	-0.0387 (0.2541)	-0.0093 (0.7836)	1.0000

*significance at 0.05%, ** significance at 0.010%

Variable Definition

RACC1 = residual of the variables used for discretionary accrual and dependent variable;

INTA = natural log of one divided by the total assets;

DIFFREV = change in receivables scaled by total assets,

PPEta = gross of property, plant, and equipment divided by total assets;

ROA = return on assets

Overall, correlations between the variables in both periods suggest a mean variance inflation factor (VIF) of 1.52, which multicollinearity is not a substantive issue. The coefficients between the Property, Plant, and Equipment (PPEta) and natural logarithm of inverse of total assets (inta =-0.2077), and return on assets (ROA) and residual of variables involved (racc1 = -0.3437), are found to be negatively correlated in both the pre-adoption and post-adoption periods respectively (all at 0.05% significance level). These results are consistent with the prior expectation that the negative correlation reflects the natural outcome of discretionary accrual accounting, which is a signal for an improved accounting quality (Barth et al, 2008; Leuz et al, 2003). Table 6b also depicts a positive correlation at 0.10% significance level in post-adoption period. This positive relationship is also expected, given that frequent turnaround of firm's assets tends to improve the earnings capacity level of the firm. This in turn leads to improve the accounting quality.

5. CONCLUSIONS

This paper examines as to whether the quality of financial reporting has increased after the mandatory adoption of IFRS in 2005 of South African listed firms. More specifically, we investigate whether the application of IFRS in listed firms of JSE is associated with less earnings management of accounting numbers.

Our results posit that there has been some improvement in accounting quality between the pre-adoption and post-adoption periods of IFRS. In particular, we reveal that listed South African firms exhibit an increase in the accounting-based attributes such as increase in variability of change in net income, increase in variability of change in net income over a change in cash flow, and improvement in correlation of accruals and cash flow, with exception of the small positive net income towards target (SPOS) metric, which exhibited a decreased in net income after IFRS adoption. Interestingly, these findings are more pronounced for the firms in countries where the distance between the pre-existing national GAAP and IFRS was important. These results are in line with previous studies (Barth et al, 2008; Chua et al, 2012), as such outcome is also of great interest to the IASB and other African countries that are moving to adopt the IFRS. They also complement research into other aspects of accounting quality such as management disclosures (Leuz et al, 2003).

Overall, our findings offer some support to the EU's decision to harmonize standards by moving to mandatory IFRS reporting. These findings are potentially useful for accounting standard setters, capital market regulators, and decision-makers in both developed and developing nations including African countries, and those that have not yet decided to adopt IFRS.

Furthermore, our findings are related to a post-IFRS adoption period that is relatively longer time period as compared to a relatively short period of most previous studies about the topic. Finally, we used seven indicators as proxies for accounting quality. There must be further research to examine other metrics of accounting quality, such as comparability, predictability, value relevance and persistence.

Nevertheless, among some limitations of the study include timely revision to the standards so as to meet the fast-changing economic environment that the firms are operating. This provides invaluable opportunities for future research to recognize such changes, prior studies have not been able to ascertain whether accounting quality metrics absolutely measure accounting quality per se or the change of policy. This is because a multi-dimensional concept of accounting quality should recognize and address multiple attributes of accounting quality rather than what prior research looked at. We mitigate the confounding effects of other factors by including a number of control variables that have been identified by prior studies.

Our results provide evidence to support for the adoption of IFRS, although there is still room and scope for future research to expand this study in the areas of other accounting quality metrics.

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